



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,555	11/26/2003	Alan V. Von Arx	81155(7400)	9669
22242	7590	06/17/2005	EXAMINER	
FITCH EVEN TABIN AND FLANNERY 120 SOUTH LA SALLE STREET SUITE 1600 CHICAGO, IL 60603-3406			RODRIGUEZ, WILLIAM H	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,555

Applicant(s)

VON ARX ET AL.

Examiner

William H. Rodriguez

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9, 11-17 and 19-29 is/are rejected.
- 7) ☒ Claim(s) 10 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

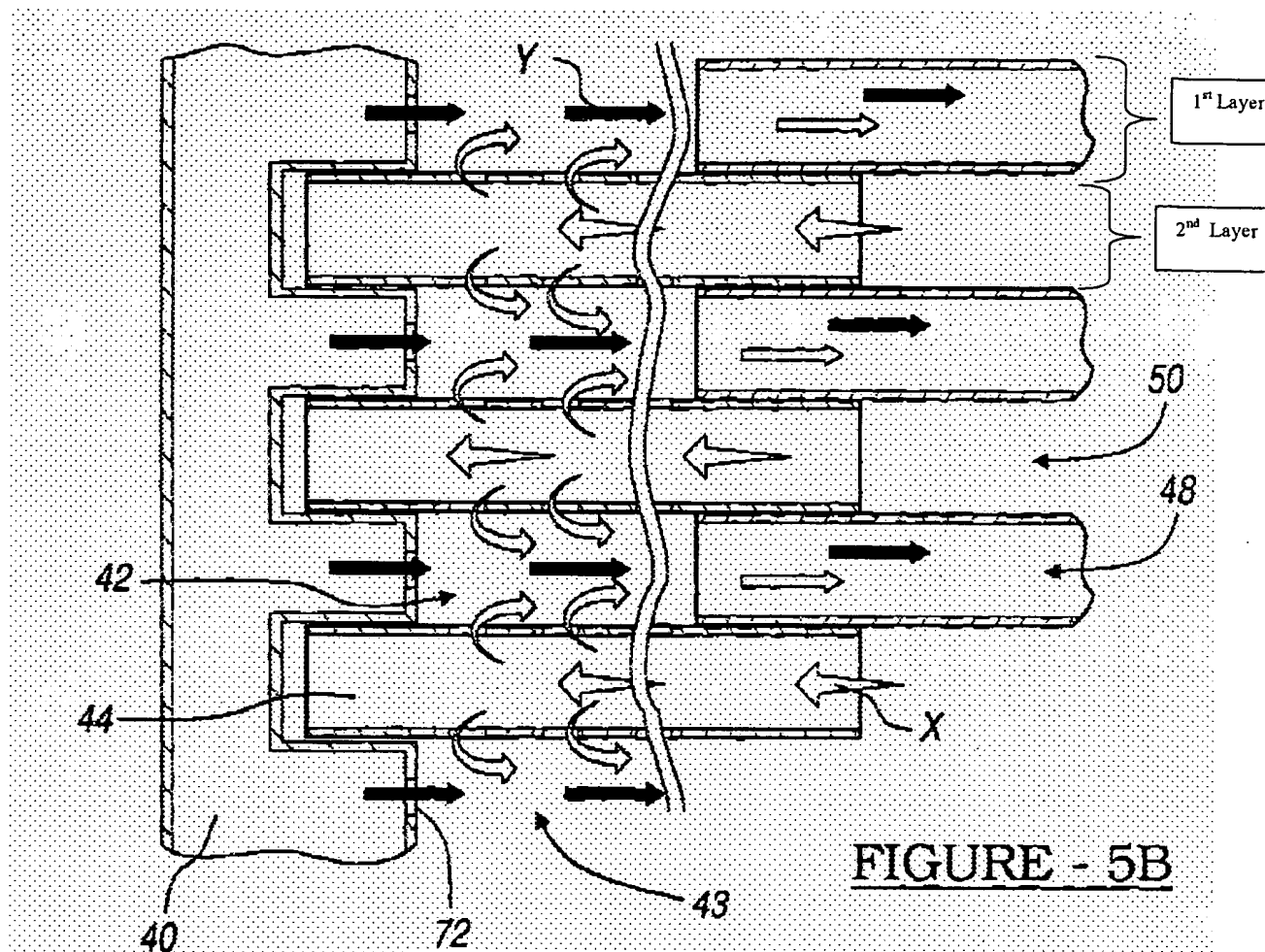
- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/30/05; 5/31/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

FIGURE - 2



For claims 9, 11-16 and 23-29

X is air; Y is fuel

With respect to claim 9, **Sprouse** teaches a catalytic combustor for gas turbines comprising: a plurality of layered plates; and a catalyst (page 4 first two lines of paragraph 0046); and a plurality of air passages 50 formed from said plates; and a plurality of premixed fuel/air passages 48 formed from said plates; and a means for heating (ignition of fuel/air mixture) at least one side of said combustor wherein said means for heating warms a first layer of plates such that the energy of activation for said catalyst is achieved; and a second layer of plates which is heated by said first layer of plates such that a chain reaction ensues wherein the

Art Unit: 3746

energy of activation is overcome for each successive layer of said plurality of plates. See particularly **Figures 2** and **5B**; page 5 paragraphs 0048, 0049 and 0055.

With respect to claim 11, **Sprouse** teaches that the catalyst is platinum or palladium. See particularly page 4 line 4 of paragraph 0046.

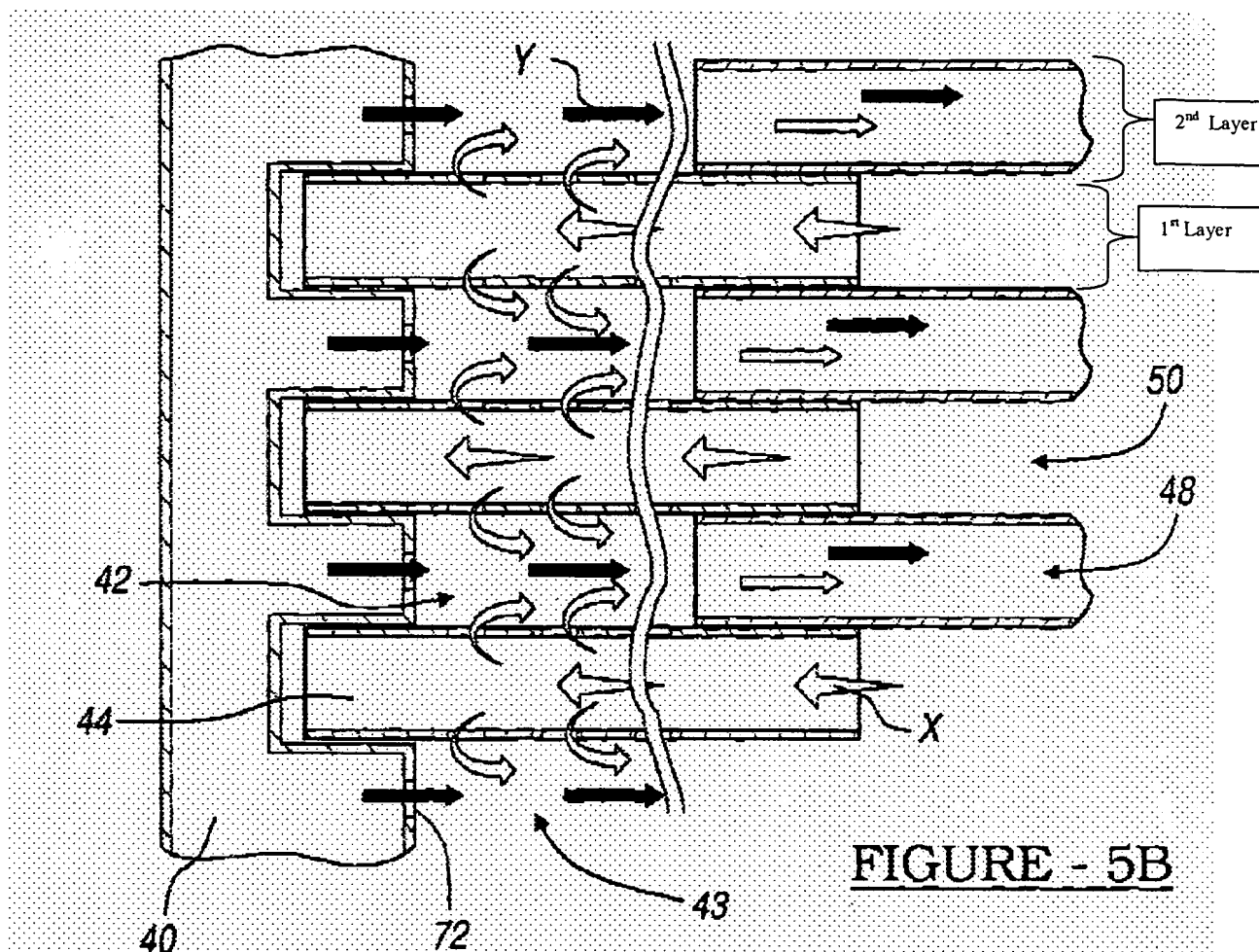
With respect to claim 12, **Sprouse** teaches that the means for heating is direct partial combustion of incoming air. See particularly **Figures 2** and **5B**.

With respect to claim 13, **Sprouse** teaches that the energy of activation is in the range of 900.degree. F. and 1000.degree. F. See particularly page 5 line 9 of paragraph 0048.

With respect to claim 14, **Sprouse** teaches that the combustor reduces the formation of NO_x. See particularly page 1 paragraph 0002.

With respect to claim 15, **Sprouse** teaches that the chain reaction occurs in a cascade. See particularly page 5 paragraphs 0048, 0049 and 0055.

With respect to claim 16, **Sprouse** teaches that the catalytic combustor further comprises a temperature measurement device (not shown but inherent in order to monitor the operating temperatures inside the combustor).



For claims 17-22

With respect to claim 17, **Sprouse** teaches a method of activating a catalytic combustor for gas turbines comprising the steps of: applying heat to at least one side of said combustor for heating the air located in a first layer of air passages 50; and heating the plates which form a side of said first layer of air passages by way of said heated air; and blowing said heated air X through said first layer of air passages 50; and redirecting said heated air X into a layer of premixed fuel/air passages 48; and heating the plates which form a side of said premixed fuel/air passages 48 by way of said heated air X; and providing fuel Y to said premixed fuel/air passages 48 wherein combustion occurs; and directing the resulting thermal energy products into a turbine

Art Unit: 3746

to produce power while thermal energy from the combustion process heats incoming air in successive layers. See particularly **Figures 2 and 5B**; page 5 paragraphs 0048, 0049 and 0055.

With respect to claim 19, **Sprouse** teaches that the premixed fuel/air sides of said plates are coated with a catalyst. See particularly page 4 first two lines of paragraph 0046

With respect to claim 20, **Sprouse** teaches that the catalyst is platinum or palladium. See particularly page 4 line 4 of paragraph 0046.

With respect to claim 21, **Sprouse** teaches that the energy of activation is in the range of 900.degree. F. and 1000.degree. F. See particularly page 5 line 9 of paragraph 0048.

With respect to claim 22, **Sprouse** teaches that the combustor reduces the formation of NO_x. See particularly page 1 paragraph 0002.

With respect to claim 23, **Sprouse** teaches a catalytic combustor for gas turbines comprising: a plurality of layered tubes; and a catalyst (page 4 first two lines of paragraph 0046); and a plurality of air passages 50 formed from said tubes; and a plurality of premixed fuel/air passages 48 formed from said tubes; and a means for heating (ignition of fuel/air mixture) at least one side of said combustor wherein said means for heating warms a first layer of tubes such that the energy of activation for said catalyst is achieved; and a second layer of tubes which is heated by said first layer of tubes such that a chain reaction ensues wherein the energy of activation is overcome for each successive layer of said plurality of tubes. See particularly **Figures 2 and 5B**; page 5 paragraphs 0048, 0049 and 0055.

With respect to claim 24, **Sprouse** teaches that the catalyst is platinum or palladium. See particularly page 4 line 4 of paragraph 0046.

With respect to claim 25, **Sprouse** teaches that the means for heating is direct partial combustion of incoming air. See particularly **Figures 2 and 5B**.

With respect to claim 26, **Sprouse** teaches that the energy of activation is in the range of 900.degree. F. and 1000.degree. F. See particularly page 5 line 9 of paragraph 0048.

With respect to claim 27, **Sprouse** teaches that the combustor reduces the formation of NOx. See particularly page 1 paragraph 0002.

With respect to claim 28, **Sprouse** teaches that the chain reaction occurs in a cascade. See particularly page 5 paragraphs 0048, 0049 and 0055.

With respect to claim 29, **Sprouse** teaches that the catalytic combustor further comprises a temperature measurement device (not shown but inherent in order to monitor the operating temperatures inside the combustor).

Allowable Subject Matter

2. The indicated allowability of claims 9, 11-17 and 19-29 is withdrawn in view of the newly discovered reference(s) to **Sprouse et al. (US 2003/0192319)**. Rejections based on the newly cited reference(s) follow.

3. Claims 10 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Art Unit: 3746

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Examiner
Art Unit 3746

6/16/05